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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/991,133	11/16/2001	Atsushi Muramatsu	KASAP008	5220

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EXAMINER

NGUYEN, XUAN LAN T

ART UNIT	PAPER NUMBER
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3683

DATE MAILED: 11/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/991,133

Applicant(s)

MURAMATSU ET AL.

Examiner

Lan Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 12,13.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. Document O, "French Preliminary Search Report", listed on IDS paper #13, filed 9/15/03, has been lined out because it is not considered as a prior art document and would not be listed on the face of the patent should this application matures into a patent.

Specification

2. The disclosure is objected to because of the following informalities: page 35, line 29, "light-hand" should be --right-hand--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 2 and 13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 2 and 13 comprise the limitation "at least one of said fluid pressure in said pressure receiving chamber and said air pressure in said oscillating air chamber".

Claim 1 has been amended to eliminate the alternative of "at least one of". Since claim 1 positively claims that the static pressure control mechanism adapted to substantially statically change said fluid pressure in said pressure receiving chamber; the dependent claims 2 and 13 no longer have a choice of one of said pressure receiving chamber and said oscillating air chamber. Furthermore, the static pressure control mechanism is not able to substantially statically change the air pressure in the said oscillating air chamber. The static pressure control mechanism, as described in page 8, paragraph [0019], comprises the static working air chamber and would not be able to substantially statically change the air pressure in the said oscillating air chamber.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 7 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7, on the last line, claims "held in contact with and away from". This limitation renders claims 7 and 8 indefinite. It is understood that the oscillating plate is oscillating in a manner that sometimes it would come into contact with the restriction member and sometimes it would move away from the restriction member.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 3-8, 14 and 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Takeo et al. (Japanese publication # 10-061715). Please note that the English equivalent of the Japanese publication # 10-061715 is USP 6,527,260 B2. The USP 6,527,260 B2 is being used for the rejections in this Office Action while awaiting the translation of the Japanese publication # 10-061715).

Takeo et al. show in figure 4, a pneumatically operated active vibration damping device, as in the present invention, comprising: a first 11 and a second 12 mounting member; an elastic body 13 partially defining a pressure-receiving chamber 11, 17, said pressure-receiving chamber being filled with a non-compressible fluid, as shown; an easily deformable flexible diaphragm 18 partially defining an equilibrium chamber 47 on one of opposite sides thereof, said equilibrium chamber being filled with said non-compressible fluid and having a volume easily variable; a first orifice passage 4 for fluid communication between said pressure-receiving chamber and said equilibrium chamber; an elastic oscillating plate 45 partially defining said pressure-receiving chamber 11 and an oscillating air chamber 46 as claimed; column 19, lines 1-54 describe the operating of said oscillating plate as claimed; a static pressure control mechanism 25, 19 adapted to substantially statically change said fluid pressure in said

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pressure receiving chamber 11, so as to induce a substantially static elastic deformation of said elastic oscillating plate for changing a spring stiffness of said elastic oscillating plate, see column 19, line 55 to column 20, line 8.

Re: claim 3, Takeo et al. further shows a static working air chamber 19 partially defined by and formed on the opposite of said flexible diaphragm 18 remote from said equilibrium chamber 11 wherein the operation of the working air chamber is being described in column 20, lines 9-32.

Re: claim 4, Takeo shows a static pressure regulating switch valve 55. In column 19, lines 1-4 and lines 27-31, Takeo shows that the working air chamber is used to dampen high frequency vibration. In column 19, lines 1-26, Takeo shows that said static pressure regulating switch valve 55 is being controlled to open or close (i.e. duty ratio being changed) according to a prescribed cycle.

Re: claim 5, Takeo shows in column 20, lines 9-21 that said oscillating air chamber being applied with oscillating air pressure. In column 19, lines 27-54, a substantially static change of air pressure is applied to said oscillating air chamber.

Re: claim 6, Takeo shows in figure 4, an active pressure regulating switch valve 55, and a static pressure regulating switch valve 25; wherein column 19, lines 26-54 describe said active pressure regulating switch valve being actively controlled to dampen vibration while column 19, lines 1-25 describes said static pressure regulating switch valve being controlled to dampen high frequency vibration according to a prescribed cycle.

Re: claims 7 and 8, Takeo further shows a restricting member 44; column 20, lines 9-30 shows said oscillating plate being brought into abutting contact with said restricting member.

Re: claim 14, figure 4 shows an active pressure switch valve 55 and its operation as claimed in column 19, lines 26-54 and column 20, lines 9-31.

Re: claim 16, figure 4 shows said second mounting member 12 has a cylindrical cup shape and is open to said first mounting member 11 with said elastic body interposed in between; a partition structure 44, 39 wherein said partition structure cooperating with said elastic body to form said pressure receiving chamber 11, and including an integrally formed restricting member 44 to support elastic oscillating plate 45 and cooperates with said elastic oscillating plate to form said oscillating air chamber; wherein said flexible diaphragm 18 is located between said partition structure and a bottom of said second mounting as shown, said flexible diaphragm cooperating with said partition structure to form said equilibrium chamber 47 on one side and a static working air chamber 19 on the other, said working air chamber undergoing a static change of an air pressure therein which is applied to said pressure receiving chamber via first orifice 4.

Re: claim 17, figure 4 shows first orifice 4 being defined at an outer circumference portion thereof.

Re: claim 18, figure 4 further shows a pressure transmitting passage connecting chamber 46 to valve 56.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeo et al. (Japanese publication # 10-061715) in view of Muramatsu (USP 5,170,998).

Re: claims 9 and 10, figure 4 of Takeo shows a partition member 39, dividing said pressure receiving chamber into a primary fluid chamber 11 and an auxiliary fluid chamber 17; and a second orifice passage 5 for fluid communication between said primary fluid chamber and said auxiliary fluid chamber; wherein the oscillation of said oscillating plate would generate a pressure change in the auxiliary chamber. Takeo lacks the transmitting the pressure change to said primary chamber via said second orifice. Muramatsu teaches the concept of having an auxiliary chamber 46 being in between a primary chamber 34 and an oscillating plate 40; wherein the oscillation of said oscillating plate would generate a pressure change in the auxiliary chamber and said pressure change is transmitted to said primary chamber via said second orifice 54 to accomplish the task of dampening vibration while keeping the device in a compact form. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Takeo's device to have an auxiliary chamber

being in between a primary chamber and an oscillating plate such as taught by Muramatsu wherein the oscillation of an oscillating plate would generate a pressure change in an auxiliary chamber and said pressure change is transmitted to a primary chamber via a second orifice to accomplish the task of dampening vibration while keeping the device in a compact form in order to save space in a vehicle.

Re: claims 11 and 12, Takeo shows that the first orifice passage is tuned to a low frequency in column 19, lines 16-43, and said second orifice passage is tuned to a high frequency in column 19, lines 1-26.

11. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeo et al. (Japanese publication # 10-061715) in view of Muramatsu et al. (EP 0936376 A2).

Takeo's vibration damping device, as rejected above in claims 1 and 3, further shows first and second air conduits, not numbered but shown connecting the oscillating chamber 46 and the working air chamber 19, respectively, an active pressure regulating switch valve 55, a static pressure regulating switch valve 25, a controller 41 wherein in column 20, lines 9-30, Takeo shows that by connecting the various chambers to the atmosphere and the vacuum according a prescribed frequency, vibrations of idling, engine shaking or booming noise can be dampened. Takeo lacks the concept of controlling the active pressure regulating switch valve according to the phase and in particularly the frequency and phase of the engine ignition pulse and to adjust said control signal according to the engine speed signal. Muramatsu et al. teach the concept of dampening vibration by controlling the active pressure regulating switch valve 66

according to the frequency and phase of the engine ignition pulse and to adjust the control signal according to the engine speed signal in figures 2, 3A-3D and column 18, lines 1-28, to advantageously taken into consideration the running condition of the vehicle to dampen vibration in a moving vehicle. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Takeo's vibration damping device to include the controlling scheme such as taught by Muramatsu to dampen vibration by controlling an active pressure regulating switch valve according to the frequency and phase of the engine ignition pulse and to adjust the control signal according to the engine speed signal to advantageously taken into consideration the running condition of the vehicle to dampen vibration in a moving vehicle as shown by Muramatsu in figures 2, 3A-3D and column 18, lines 1-28.

Conclusion

12. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lan Nguyen whose telephone number is 703-308-8347. The examiner can normally be reached on M-F, 8 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-4177.

A handwritten signature in black ink, appearing to read "Lan Nguyen". The signature is fluid and cursive, with the first name "Lan" and last name "Nguyen" clearly distinguishable.

Patent Examiner
A. U. 3683
October 28, 2003